



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/823,011	03/30/2001	Tao Chen	010008	6738

23696 7590 02/12/2003

Qualcomm Incorporated
Patents Department
5775 Morehouse Drive
San Diego, CA 92121-1714

EXAMINER

LELE, TANMAY S

ART UNIT

PAPER NUMBER

2681

DATE MAILED: 02/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/823,011

Applicant(s)

CHEN ET AL.

Examiner

Tanmay S Lele

Art Unit

2681

THE MAILING DATE of this communication appears on the cover sheet with the correspondence address --
for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 March 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☒ Claim(s) 17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Specification

1. The disclosure is objected to because it contains an embedded hyperlink and/or other form of browser-executable code. Applicant is required to delete the embedded hyperlink and/or other form of browser-executable code. See MPEP § 608.01.

Claim Objections

2. Claim 17 is objected to because of the following informalities: "states the apparatus as recited in claim 1," while claim recites a method. For examining purposes it was assumed that the "1" was a "16" and thus dependent on the apparatus. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 13 and 28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 13 and 28, it is not understood how, "said pilot channel originates from said mobile," as the mobile would thus transmit the signal to itself. For purposes of examining, it was assumed the base station transmitted the pilot signal, as is common to most systems. Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

6. Claims 1 – 3 and 16 – 18 are rejected under 35 U.S.C. 102(a) as being anticipated by Blaker et al. (Blaker, World Intellectual Property Organization, WO 00/075905).

Regarding claim 1, Blaker teaches of in a communication system, a method comprising: determining duty cycle of a communication channel (page 9, lines 5 – 17 and page 10, lines 8 - 14); controlling power level of said communication channel based on said determined duty cycle (page 2, lines 12 – 17; page 9, lines 5 – 17).

Regarding claim 2, Blaker teaches all the claimed limitations as recited in claim 1. Blaker further teaches of further comprising: comparing said determined duty cycle against a duty cycle threshold (page 10, lines 15 – 21); wherein an adjustment for controlling power level via said controlling is based on said comparing (page 10, lines 8 – 14).

Regarding claim 3, Blaker teaches all the claimed limitations as recited in claim 1. Blaker further teaches of comprising: informing a mobile station of said determined duty cycle (page 10, lines 8 – 15).

Regarding claim 16, Blaker teaches of a communication system, an apparatus comprising: a controller configured for determining duty cycle of a communication channel (page 9, lines 5 – 17 and page 10, lines 8 – 14 and Figures 5a – 5e); wherein said controller further configured for controlling power level of said communication channel based on said determined duty cycle (page 2, lines 12 – 17; page 9, lines 5 – 17 and Figures 5a – 5e).

Regarding claim 17, Blaker teaches all the claimed limitations as recited in claim 16. Blaker further teaches of wherein said controller is configured for comparing said determined

Art Unit: 2681

duty cycle against a duty cycle threshold (page 10, lines 15 – 21), and wherein an adjustment for controlling power level via said controlling is based on said comparing (page 10, lines 8 – 14).

Regarding claim 18, Blaker teaches all the claimed limitations as recited in claim 16. Blaker further teaches of comprising: a transmitter configured for informing a mobile station, via a receiver in said mobile station, of said determined duty cycle (page 10, lines 8 – 15).

Claim Rejections - 35 USC § 103

7. Claims 4, 5, 8 – 10, 19, 20, and 23 – 25, are rejected under 35 U.S.C. 103(a) as being unpatentable over Blaker et al. (Blaker, World Intellectual Property Organization, WO 00/075905) as applied to claim 1 above, and further in view of Tiedemann Jr. (Tiedemann, US Patent No. 6,307,849).

Regarding claim 4, Blaker teaches all the claimed limitations as recited in claim 1. Blaker does not specifically teach of wherein said controlling comprises of selecting a code channel to pilot channel power ratio for controlling power level of said communication channel.

In a related art dealing with centralized power control, Tiedemann teaches of wherein said controlling comprises of selecting a code channel to pilot channel power ratio for controlling power level of said communication channel (starting column 8, line 61 and ending column 9, line 23).

It would have been obvious to one skilled in the art at the time of invention to have included into Blaker's transceiver, Tiedemann's ratio, for the purposes of optimizing and improving the performance of a CDMA system in respect to various facets (multi-carrier environments, soft handover, ect), as taught by Tiedemann.

Regarding claim 5, Blaker in view of Tiedemann, teach all the claimed limitations as recited in claim 4. Tiedemann further teaches of comprising: informing a mobile station of said selected code channel to pilot channel power ratio (starting column 8, line 61 and ending column 9, line 23).

Regarding claim 8, Blaker teaches all the claimed limitations as recited in claim 1. Blaker does not specifically teach of wherein said communication channel is a dedicated control channel.

In a related art dealing with centralized power control, Tiedemann teaches of wherein said communication channel is a dedicated control channel (column 5, lines 6 – 27).

It would have been obvious to one skilled in the art at the time of invention to have included into Blaker's transceiver, Tiedemann's ratio, for the purposes of optimizing and improving the performance of a CDMA system in respect to various facets (multi-carrier environments, soft handover, ect), as taught by Tiedemann.

Regarding claim 9, Blaker in view of Tiedemann teaches all the claimed limitations as recited in claim 8. Tiedemann further teaches of wherein said controlling comprises of modifying a code channel to pilot channel power ratio associated with a traffic channel (starting column 8, line 61 and ending column 9, line 23).

Regarding claim 10, Blaker in view of Tiedemann teach all the claimed limitations as recited in claim 9. Tiedemann further teaches comprising: using said modified code channel to pilot channel power ratio to control power level of said dedicated control channel (as seen in Figure 3. and column 9, lines 5 – 53).

Regarding claim 19, Blaker teaches all the claimed limitations as recited in claim 16.

Art Unit: 2681

Blaker does not specifically teach of wherein said controller is configured for performing said controlling by selecting a code channel to pilot channel power ratio for controlling power level of said communication channel.

In a related art dealing with centralized power control, Tiedemann teaches of wherein said controller is configured for performing said controlling by selecting a code channel to pilot channel power ratio for controlling power level of said communication channel (starting column 8, line 61 and ending column 9, line 23).

It would have been obvious to one skilled in the art at the time of invention to have included into Blaker's transceiver, Tiedemann's ratio, for the purposes of optimizing and improving the performance of a CDMA system in respect to various facets (multi-carrier environments, soft handover, ect), as taught by Tiedemann.

Regarding claim 20, Blaker in view of Tiedemann, teach all the claimed limitations as recited in claim 19. Tiedemann further teaches of wherein said transmitter is configured for informing a mobile station of said selected code channel to pilot channel power ratio (starting column 8, line 61 and ending column 9, line 23 and Figures 1 and 3).

Regarding claim 23, Blaker teaches all the claimed limitations as recited in claim 16. Blaker does not specifically teach of wherein said communication channel is a dedicated control channel.

In a related art dealing with centralized power control, Tiedemann teaches of wherein said communication channel is a dedicated control channel (column 5, lines 6 – 27).

It would have been obvious to one skilled in the art at the time of invention to have included into Blaker's transceiver, Tiedemann's ratio, for the purposes of optimizing and

improving the performance of a CDMA system in respect to various facets (multi-carrier environments, soft handover, ect), as taught by Tiedemann.

Regarding claim 24, Blaker in view of Tiedemann teaches all the claimed limitations as recited in claim 23. Tiedemann further teaches of wherein said controller is configured for said controlling by modifying a code channel to pilot channel power ratio associated with a traffic channel (starting column 8, line 61 and ending column 9, line 23).

Regarding claim 25, Blaker in view of Tiedemann teach all the claimed limitations as recited in claim 24. Tiedemann further teaches of wherein said controller is configured using said modified code channel to pilot channel power ratio to control power level of said dedicated control channel (as seen in Figure 3 and column 9, lines 5 – 53).

8. Claims 6, 7, 11 – 15, 21, 22, and 26 – 30, are rejected under 35 U.S.C. 103(a) as being unpatentable over Blaker et al. (Blaker, World Intellectual Property Organization, WO 00/075905) as applied to claim 1 above, and further in view of Ziv et al. (Ziv, US Patent No. 5,884,187).

Regarding claim 6, Blaker teaches all the claimed limitations as recited in claim 1. Blaker does not specifically teach of wherein said communication channel is between a mobile station and a base station, wherein said controlling comprises: adjusting a parameter of a power control outer loop at said base station, wherein said power control outer loop is operating to control power level of a signal transmitted from said mobile station.

In a related art dealing with power control, Ziv teaches of wherein said communication channel is between a mobile station and a base station, wherein said controlling comprises: adjusting a parameter of a power control outer loop at said base station, wherein said power

control outer loop is operating to control power level of a signal transmitted from said mobile station (starting column 14, line 42 and ending column 15, line 20).

It would have been obvious to one skilled in the art at the time of invention to have included into Blaker's transceiver, Ziv's control mechanism, for the purposes of centralizing power control and thus simplify the traditional power control mechanism, as taught by Ziv.

Regarding claim 7, Blaker teaches all the claimed limitations as recited in claim 1. Blaker does not specifically teach of wherein said communication channel is between a mobile station and a base station, wherein said controlling comprises: adjusting a frame error rate set point, at said mobile station, of a power control outer loop, wherein said power control outer loop is operating to control power level of a signal transmitted from said mobile station.

In a related art dealing with power control, Ziv teaches of wherein said communication channel is between a mobile station and a base station, wherein said controlling comprises: adjusting a frame error rate set point, at said mobile station, of a power control outer loop, wherein said power control outer loop is operating to control power level of a signal transmitted from said mobile station (starting column 14, line 42 and ending column 15, line 20).

It would have been obvious to one skilled in the art at the time of invention to have included into Blaker's transceiver, Ziv's control mechanism, for the purposes of centralizing power control and thus simplify the traditional power control mechanism, as taught by Ziv.

Regarding claim 11, Blaker teaches all the claimed limitations as recited in claim 1. Blaker further teaches of wherein said controlling comprises of adjusting a target power level for controlling power level of said communication channel (page 2, lines 12 – 17; page 9, lines 5 – 17).

Blaker does not specifically teach of [wherein said controlling comprises of adjusting a target power level] of a pilot channel [for controlling power level of said communication channel].

In a related art dealing with power control, Ziv teaches of [wherein said controlling comprises of adjusting a target power level] of a pilot channel [for controlling power level of said communication channel] (starting column 12, line 65 and ending column 13, line 20).

It would have been obvious to one skilled in the art at the time of invention to have included into Blaker's transceiver, Ziv's control mechanism, for the purposes of centralizing power control and thus simplify the traditional power control mechanism, as taught by Ziv.

Regarding claim 12, Blaker in view of Ziv, teach all the claimed limitations as recited in claim 11. Ziv further teaches of wherein said communication channel is between a mobile station and a base station, further comprising: communicating said adjusted target power level of said pilot channel to said mobile station (column 17, lines 35 –45).

Regarding claim 13, Blaker in view of Ziv, teach all the claimed limitations as recited in claim 11. Ziv further teaches of wherein said communication channel is between a mobile station and a base station, wherein said pilot channel originates from the base station (column 17, lines 15 – 22).

Regarding claim 14, Blaker teaches all the claimed limitations as recited in claim 1. Blaker does not specifically teach of wherein said controlling comprises of adjusting a power level of a power control sub-channel.

In a related art dealing with power control, Ziv teaches of wherein said controlling comprises of adjusting a power level of a power control sub-channel (column 17, lines 15 –22

Art Unit: 2681

and lines 36 – 45; note that the base stations sends a variety of channels, the pilot being one of the subset).

It would have been obvious to one skilled in the art at the time of invention to have included into Blaker's transceiver, Ziv's control mechanism, for the purposes of centralizing power control and thus simplify the traditional power control mechanism, as taught by Ziv.

Regarding claim 15, Blaker in view of Ziv teach all the claimed limitations as recited in claim 14. Ziv further teaches of wherein said communication channel is between a mobile station and a base station, wherein said power control sub-channel originates from said base station (column 17, lines 15 –22 and lines 36 – 45).

Regarding claim 21, Blaker teaches all the claimed limitations as recited in claim 16. Blaker does not specifically teach of wherein said communication channel is between a mobile station and a base station, wherein said controller is configured for said controlling by adjusting a parameter of a power control outer loop at said base station, wherein said power control outer loop is operating to control power level of a signal transmitted from said mobile station.

In a related art dealing with power control, Ziv teaches of wherein said communication channel is between a mobile station and a base station (Figure 5), wherein said controller is configured for said controlling by adjusting a parameter of a power control outer loop at said base station, wherein said power control outer loop is operating to control power level of a signal transmitted from said mobile station (starting column 14, line 42 and ending column 15, line 20).

It would have been obvious to one skilled in the art at the time of invention to have included into Blaker's transceiver, Ziv's control mechanism, for the purposes of centralizing power control and thus simplify the traditional power control mechanism, as taught by Ziv.

Regarding claim 22, Blaker teaches all the claimed limitations as recited in claim 16.

Blaker does not specifically teach of wherein said communication channel is between a mobile station and a base station, wherein said controller is configured for said controlling by adjusting a frame error rate set point, at said mobile station, of a power control outer loop, wherein said power control outer loop is operating to control power level of a signal transmitted from said mobile station.

In a related art dealing with power control, Ziv teaches of wherein said communication channel is between a mobile station and a base station (Figure 5), wherein said controller is configured for said controlling by adjusting a frame error rate set point, at said mobile station, of a power control outer loop, wherein said power control outer loop is operating to control power level of a signal transmitted from said mobile station (starting column 14, line 42 and ending column 15, line 20).

It would have been obvious to one skilled in the art at the time of invention to have included into Blaker's transceiver, Ziv's control mechanism, for the purposes of centralizing power control and thus simplify the traditional power control mechanism, as taught by Ziv.

Regarding claim 26, Blaker teaches all the claimed limitations as recited in claim 16. Blaker further teaches of wherein said controller is configured for said controlling by adjusting a target power level for controlling power level of said communication channel.
(page 2, lines 12 – 17; page 9, lines 5 – 17).

Blaker does not specifically teach of [wherein said controller is configured for said controlling by adjusting a target power level of] a pilot channel [for controlling power level of said communication channel].

In a related art dealing with power control, Ziv teaches of [wherein said controller is configured for said controlling by adjusting a target power level of] a pilot channel [for controlling power level of said communication channel] (starting column 12, line 65 and ending column 13, line 20).

It would have been obvious to one skilled in the art at the time of invention to have included into Blaker's transceiver, Ziv's control mechanism, for the purposes of centralizing power control and thus simplify the traditional power control mechanism, as taught by Ziv.

Regarding claim 27, Blaker in view of Ziv, teach all the claimed limitations as recited in claim 26. Ziv further teaches of wherein said communication channel is between a mobile station and a base station, further comprising: a transmitter in said base station configured for communicating said adjusted target power level of said pilot channel to a receiver in said mobile station. (column 17, lines 35 –45).

Regarding claim 28, Blaker in view of Ziv, teach all the claimed limitations as recited in claim 26. Ziv further teaches of wherein said communication channel is between a mobile station and a base station, wherein said pilot channel originates from the base station (column 17, lines 15 – 22).

Regarding claim 29, Blaker teaches all the claimed limitations as recited in claim 16. Blaker does not specifically teach of wherein said controller is configured for said controlling by adjusting a power level of a power control subchannel.

In a related art dealing with power control, Ziv teaches of wherein said controller is configured for said controlling by adjusting a power level of a power control subchannel

(column 17, lines 15 –22 and lines 36 – 45; note that the base stations sends a variety of channels, the pilot being one of the subset).

It would have been obvious to one skilled in the art at the time of invention to have included into Blaker's transceiver, Ziv's control mechanism, for the purposes of centralizing power control and thus simplify the traditional power control mechanism, as taught by Ziv.

Regarding claim 30, Blaker in view of Ziv teach all the claimed limitations as recited in claim 29. Ziv further teaches of wherein said communication channel is between a mobile station and a base station, wherein said power control sub-channel originates from said base station (column 17, lines 15 –22 and lines 36 – 45).

Citation of Pertinent Prior Art

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Inventor	Publication	Number	Disclosure
Park et al.	US Patent	6,480,481	Gated Transmission in Control Hold State in CDMA Communication System
Tiedemann Jr.	US Patent	6,307,849	Method and System for Changing Forward Traffic Channel Power Allocation During Soft Handover
Roddy et al.	US Patent	6,127,740	System For Controlling Signal Strength in a Remote Transmitter
Ziv et al.	US Patent	5,884,187	Method and Apparatus for Providing Centralized Power Control Administration for a Set of Base Stations
Soleimani et al.	US Patent	5,659,892	Operation of Low Cost Fixed Output Power Radio in Fixed Gain Mode
Gilhausen et al.	US Patent	5,603,096	Reverse Link, Closed Loop Power Control in aCDMA

Art Unit: 2681

			System
Blaker et al.	World IP Organization	WO 00/075905	Transceiver with Closed Loop Control of Antenna Tuning and Power Level
Jacobsen	World IP Organization	WO 02/19562	Wireless Communication System Determines Antenna Gain Parameter Associated with Generated Transmission Beam to Adjust Transmission Power Level

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tanmay S Lele whose telephone number is (703) 305-3462. The examiner can normally be reached on 9 - 6:30 PM Monday – Thursdays and on alternate Fridays.

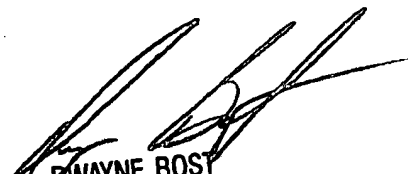
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dwayne Bost can be reached on (703) 305-4778. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-0377.



Tanmay S Lele
Examiner
Art Unit 2681

tsl
February 6, 2003



DWAYNE BOST
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600